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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,104	06/09/2000	Hiroyoshi Suzuki	16869P010000US	3405

20350 7590 07/23/2003

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EXAMINER

BATAILLE, PIERRE MICHE

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 07/23/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/591,104

Applicant(s)

SUZUKI ET AL.

Examiner

Pierre-Michel Bataille

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: -- SOFTWARE PREFETCH SYSTEM AND METHOD FOR CONCURRENTLY OVERRIDING DATA PREFETCHED INTO MULTIPLE LEVELS OF CACHE --. The loss in brevity of title is more than offset by the gain in its informative value in indexing, classifying, searching, etc. See MPEP 606 and 606.01.

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors.

The disclosure is objected to because of the following informalities: The first occurrence of all acronym and abbreviation, whether considered well known or not, should be written out for clarity. As such, "CRC" (page 4, line 25) should be written out for clarity.

"a" should be replaced with -- an -- before the word "extent" on page 7

On page 5, line 6, "37 to 35" (channel interface control units) appears to be - 31 to 35- -.

Appropriate correction is required.

Claim 3: "storage in" and "removal from" should be replaced with --staging in-- and --destaging from --, respectively for clarity and consistency.

In claim 5, "a" (line 7) should be replaced with --the-- for consistency.

These are only exemplary. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,875,349 (Cornaby et al).

As per claim 1, Cornaby (US 5,875,349) discloses a conventional system, an external storage subsystem (Hard disk drive 19, 27, Fig. 1) comprising: a cache memory (RAM memory buffer 28, 34) to store data temporarily [(storing operating data and code for controlling the operation of the data storage device in the system RAM for use by the host computer and/or the data storage device) Col. 4, Lines 7-15; Col. 1, Lines 13-16]; and an interface ((SCSI (small computer system interface) adapter card) Col. 4, Line 54-55) through which a connection with a supervisory unit (host computer module 11) can be established for reading and writing data [Col. 7, Lines 44-59], wherein staging of the data into the cache memory and destaging of the data from the cache memory are performed

according to an instruction (system BIOS code 14) from the supervisory unit, the instruction formulated by the supervisory unit according to a selectable criteria [Col. 5, Lines 26-49, Lines 54-63].

As to claim 5, Cornaby discloses an information processing system (computer system 10) having an external storage subsystem (Hard disk drive 19, 27, Fig. 1; Col. 1, Lines 26-35) which has a cache memory (RAM memory buffer 28, 34) and a host unit (11, Fig. 1; Col. 1, Lines 20-23) which is connected to the external storage subsystem (see Fig. 1) and execute writing to and reading data from the external storage subsystem (managing the operation of the system [Col. 1, Lines 26-35], and in which the host unit has a host utility program (operating system program) to manage data in the cache memory [Col. 6, Lines 54-63], and user defined information (user defined configuration information) Col. 2, Lines 11-12) or operating information (operating data and code) of the external storage subsystem for execution of the host utility program [Col. 2, Lines 11-12; Col. 7, Lines 44-59],; and the external storage subsystem receives instructions based on the user defined information or the operating information [Col. 6, Lines 56-59] and executes storage of a set of user data in the cache memory or removal of a set of user data from the cache memory [(storing operating data and code for controlling the operation of the data storage device in the system RAM for use by the host computer and/or the data storage device) Col. 1, Lines 13-16; Col. 4, Lines 7-15].

As to claim 2, Cornaby discloses an external storage subsystem having a cache memory to store data temporarily Col. 4, Lines 7-15; Col. 1, Lines 13-16], and in which

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user data is stored in the cache memory and removed from the cache memory based on user defined information or upon operating information of the external storage subsystem [Col. 6, Lines 56-59].

With respect to claims 3-4 and 7-8, Cornaby discloses storage in or removal from the cache memory of the user data is executed in a processing unit of data-set domain [(system BIOS and extension BIOS) Col 6, Lines 13-28, Lines 53-56].

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,393,492 (Cornaby et al) teaching method and arrangement for operating a mass memory storage peripheral computer device connected to a host computer.

US 6,389,432 (Pothapragada et al) teaching intelligent virtual volume access.

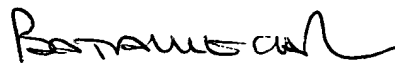
US 5,930,481 (Benhase et al) teaching system for concurrent cache data access by maintaining and selectively merging multiple ranked part copies.

US 5,909,691 (Schultz et al) teaching method for developing physical disk drive specific commands from logical disk access commands for use in a disk array.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Michel Bataille whose telephone number is (703) 305-0134. The examiner can normally be reached on Tue-Fri (7:30A to 6:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim can be reached on (703) 305-3821. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Pierre-Michel Bataille
Examiner
Art Unit 2186

July 20, 2003